

TWO NEW MICROLEPIDOPTERA FROM CALIFORNIA

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The United States National Museum is indebted to Commander C. M. Dammers of Riverside, California, who for several years has sent to it large collections of Microlepidoptera, many carefully reared with notes on foodplants. These Micros were collected incidental to Commander Dammers' work with other California Lepidoptera, which has added so much to the knowledge of the early stages, through his enthusiastic collecting and his successful mating and breeding of the insects in captivity.

Several new species have been received in these sendings, besides good series of many described species much needed in the National Collection. Because of the excellent descriptive work on California Microlepidoptera by H. H. Keifer of the California Department of Agriculture, who deposits type material of all his new species in the National Museum, where they are safe and freely accessible to future students, it seems desirable to leave this descriptive work largely to him. Hence I have selected to describe at present only the following two reared species, which are of special interest and for which Commander Dammers should receive first credit.

ARISTOTELIA RHOISELLA, new species

Second joint of labial palpi light pink, with base and an ill-defined annulation near tip black; terminal joint longer than second, light ochreous, with two broad ill-defined black annulations. Tongue long, scaled, ochreous. Antennae black with a white annulation on each joint. Face light ochreous, touched with pink. Head and thorax light pinkish fuscous, mixed with ochreous. Fore wings with typical pattern of the *roscosuffusella* group; costal two-thirds pinkish white, sprinkled with black; dorsal third light ochreous, touched with pink, especially along terminal edge; near base an outwardly oblique costal streak, reaching to the dorsal ochreous third; at basal third a similar outwardly oblique costal streak, reaching to the dorsal area and curving upwards attenuated towards a large ill-defined black costal spot at apical third; after this spot the white ground color on costa is nearly unmingled with black scales and strongly touched with pink. This light costal area is represented on the otherwise dark fuscous underside by a light ochreous costal spot; at the end of the cell is a round ochreous spot extending from the dorsal ochreous area into the costal area; this spot is preceded and followed by black scales, which form an interrupted longitudinal streak; cilia yellowish fuscous, touched with pink on base; underside dark fuscous, in the male with the scales blacktipped on all ill-defined

and not conspicuous basal area. Hind wings light silvery fuscous with yellowish cilia. Abdomen light fuscous above; under-side of body ochreous white. Legs blackish fuscous with rose-colored annulations on tibia; spurs light ochreous; tarsal joints black with narrow ochreous annulations.

Male genitalia (pl. 22, figs. 1 and 1a) typical of the genus; uncus stout, bluntly pointed; gnathos as long as uncus, gently curved, bluntly pointed; harpes divided*, with upper arm long, slender, slightly broadened and rounded at tip, lower branch short, deflected, blunt; vinculum broad, with anterior extension rounded; aedeagus short, bulky at base, with narrow, convoluted apex; female genitalia (pl. 22, fig. 2) with simple, not protruding ostium; ductus bursae rather long and not curved upon itself, as commonly is the case in the genus; bursa oval with small triforked signum.

Alar expanse 12-13 mm.

Habitat—Coachella Valley, California (C. M. Dammers).

Foodplant—*Rhus*.

Type—No. 50503, U. S. National Museum.

The species is important in helping clear up a query of seventy years' standing. As pointed out by the writer in the Revision of North American Gelechiidae (Proc. U. S. Nat. Mus., vol. 25, p. 796, 1903) the name *roseosuffusella* Clemens was until then and has been since applied to the common *Trifolium*-feeding species. But Clemens expressly stated that *roseosuffusella* feeds on the fruit of sumach (Proc. Ent. Soc. Phila. III, p. 508, 1864) and there has consequently been an uncertainty about the identity of the species; every year the writer has gathered fruit panicles of *Rhus* in various localities in an effort to rear an *Aristotelia* which would conform with Clemens' description, but without avail. When the present species, reared from *Rhus*, was received from Commander Dammers the old question seemed to be solved. Clemens never gave any locality for his new species, but it is known that while most of these undoubtedly originated from his own collecting in Pennsylvania, he did receive several specimens for description from other parts of the United States, including California, through the Smithsonian Institution.

However, to settle the matter permission was asked to make genitalia slide of Clemens' type in the Philadelphia Academy of Natural Science and this permission was liberally granted by the Curator, Dr. James A. G. Rehn.

* The harpes in the genus *Aristotelia* are divided, as is the rule in the family Gelechiidae; Forbes' figures of several species of the genus (Journ. N. Y. Ent. Soc., vol. 40, pl. 20, 1932), while helpful, are not sufficiently accurate to enable safe differentiation of the many closely similar species of this genus, and the lower arms of the harpes are either omitted or represented as part of the vinculum.

These genitalia (pl. 22, figs. 3 and 4) prove beyond dispute that the name *roseosuffusella* Clemens must be retained for our common *Trifolium*-feeding species and that Clemens' statement of foodplant, which was made four and a half years after he described the insect, was an error, possibly occasioned by his obtaining a specimen of the present species reared from *Rhus* and not differentiating between these two similarly colored species.

The species of the *roseosuffusella* and *rubidella* groups of *Aristotelia* are with few exceptions difficult to determine from coloration alone and no additional species should be described except when the foodplant is known.

The genitalia of both sexes, however, though also very uniform in general pattern, present good definite characters. The writer has genitalia slides of both sexes of all available American species of the genus and good figures have been made from them, which enable ready specific recognition.

PLUTELLA DAMMERSI, new species

Labial palpi light yellow; second joint sparsely sprinkled with black on outer side; terminal joint as long as tuft on second, slightly thickened with scales in front. Maxillary palpi short, porrected, yellow. Tongue long, spiraled. Antennae $\frac{3}{4}$, strongly thickened with scales on basal half and with well developed flap on basal joint; light yellow, terminal joint black, preceded by two white joints, then two black joints, again preceded by two white joints, before which three black joints and a fourth particularly black. Face and head whitish ochreous. Thorax darker ochreous. Fore wings concolorous with thorax, in most specimens before me entirely unmarked; in some with a few scattered deep black scales along dorsal and terminal edge; cilia concolorous. Hind wings dark shiny fuscous with lighter fuscous cilia. Abdomen dark fuscous above. Underside of body light silvery ochreous. Legs white sprinkled with black scales. Venation typical of the genus; fore wing with 12 veins all separate; 7 to termen. Hind wings with 8 veins, 3 and 4 closely approximate, 5 and 6 approximate; 7 parallel to 6.

Male genitalia (pl. 22, figs. 6 and 6a) typical of the genus, but specifically very distinct; uncus and gnathos absent; the long soft anal tube supported by a long slender ventral plate; socii short, triangular, projecting; harpes elongate oval with costal edge and sacculus slightly chitinized; sacculus ending in a strong free spine underneath which is a small tuft of flattened spines; an abrupt sinuation on cucullus, just above the strong terminal spine on sacculus; vinculus small with short blunt anterior prolongation; aedoeagus slender, slightly curved, with slightly swollen base. Eighth segment in the male ending in two free lobes, enclosing the genitalia and with two long expansible hair tufts, at rest withdrawn in deep pockets.

Female genitalia (pl. 22, fig. 5) with short pointed ovipositor lobes, ostium simple; ductus bursae abruptly bent near ostium, short, simple; bursa small, without signum.

Alar expanse 14-17 mm.

Habitat—Whitewater and Rattlesnake Canyon, Mojave Desert, California (C. M. Dammers).

Foodplant—*Isomeris arborea*.

Type—No. 50253, U. S. National Museum.

The open net-work, pure white cocoon is typical of the genus.

Named in honor of the industrious collector, Commander C. M. Dammers, who has kindly presented to the National Collection the type series of this species and many other reared and beautifully set Lepidoptera.

The species is at once recognized by the strikingly-colored and thickened antennae. In color it approaches the paler *Plutella armoraciæ* Busck, (*P. monochlora* Meyrick), injurious to horse-radish in Colorado.

The foodplant record of *Plutella dammersi* is interesting; most of the species of this genus are confined to the Cruciferae; there are only two previous records of *Plutella* feeding on other plants and both of these on the related family Capparidaceae, to which the monotypic California genus *Isomeris* belongs. J. C. Bridwell found the larvae and reared the moths of two species of Hawaiian *Plutella*, *P. albovenosa* Walsingham and *P. capparidis* Swezey, feeding on the endemic Hawaiian capers, *Capparis sandwichiæna* (Proc. Hawaii Ent. Soc., vol. 4, pp. 316 and 383, 1919).

EXPLANATION OF PLATE 22

- Fig. 1. *Aristotelia rhoisella* Busck, male genitalia.
Fig. 1a. *Aristotelia rhoisella* Busck, aedoeagus, same scale as Fig. 1.
Fig. 2. *Aristotelia rhoisella* Busck, female genitalia.
Fig. 3. *Aristotelia roseosuffusella* Clemens, male genitalia.
Fig. 3a. *Aristotelia roseosuffusella* Clemens, aedoeagus, same scale as Fig. 3.
Fig. 4. *Aristotelia roseosuffusella* Clemens, female genitalia.
Fig. 5. *Plutella dammersi* Busck, female genitalia.
Fig. 6. *Plutella dammersi* Busck, male genitalia.
Fig. 6a. *Plutella dammersi* Busck, aedoeagus, same scale as Fig. 6.

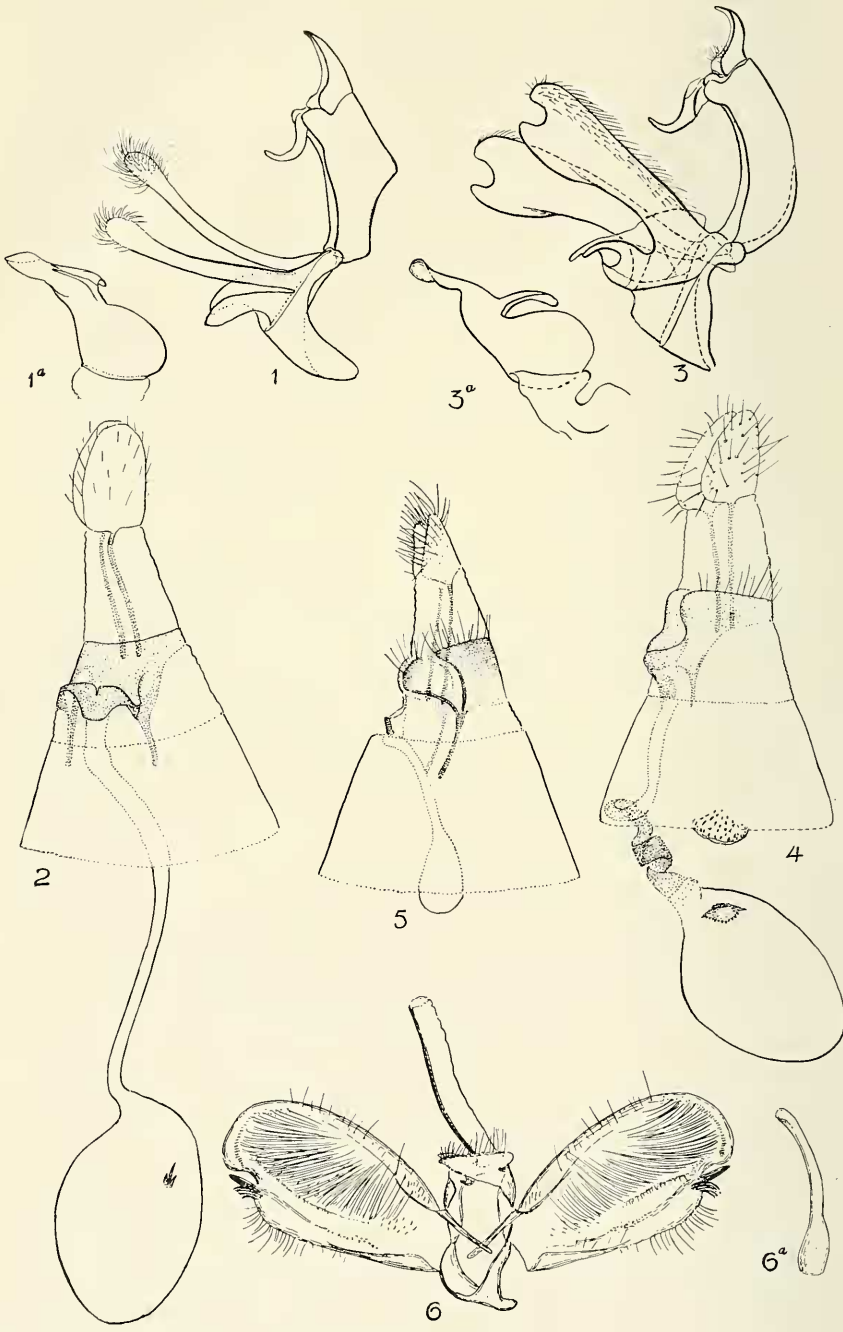


PLATE 22